

March 20, 2003

TO: Out-Of-Basin Transfer Committee Members

FROM: Herb Johnston

SUBJECT: Definitions of water basin and out-of-basin conveyance

At the March 12th meeting of the Out-of-Basin Transfer committee, I suggested modifications to the working definitions of basin and inter-basin transfer, which I agreed to submit promptly by way of e-mail to committee members. Promptly, in the parlance of this ex USGS person means any time within the next month.

In place of basin, I suggest water basin be used; in place of inter-basin transfer, I suggest Out-of-Basin Conveyance be used.

Definition of Water Basin

In the Regulated Riparian Model Water Code (2R-2-28), water basin is defined as follows:

- (1) A water basin is an area of land from which all waters drain, on the surface or beneath the ground, to a common point.
- (2) In any administrative or judicial proceeding pursuant to this code, the water basin shall be measured at the lowest point relevant to the issue to be determined.

. I suggest the OOBT committee adopt the following modification of this definition:

“Water Basin” means an area of land from which all waters drain, on the surface or beneath the ground, to a common point or altitude.

Comment:

Although the terms “watershed” or “drainage basin” could be substituted for “water basin” in the above definition, these generally are used to define surface drainage areas only.

I have included the word “altitude” in the definition to cover subsurface drainage to coastal areas. In these areas, ground water may discharge directly to saline water along many parallel flow paths that are nearly perpendicular to the shore line. (I have not seen this modification used elsewhere.)

The term “water basin” can apply to either surface or ground-water drainage areas, or

both. Resolution of future issues involving drainage areas for which the surface-water and ground-water drainage boundaries differ may require that additional observation wells be drilled to better define ground-water flow boundaries.

While most surface and subsurface drainage areas in Rhode Island are the same, this is not always the case. For example, in the headwater areas of the Queen and Chipuxet River basins, ground water beneath a substantial part of their surface drainage areas flows eastward into the Hunt, Annaquatucket, and Pettaquamscutt River basins (See USGS Professional Paper 1636, figures 5 and 6).

The term “water basin” has the advantage of being applicable to a drainage area of any size. If HUC-10 or HUC-12 basins are selected as the primary water accounting and management units, the term may prove useful in the resolution or adjudication of water issues resulting from conveyance of water from one sub basin to another within these primary units.

Definitions also will be required for HUC 10 or HUC 12 basins, if these designations are adopted.

Definition of Out-of-basin Conveyance

At the February 25th meeting, the following working definition of interbasin transfer was proposed:

Interbasin Transfer means “any transfer of any water for any purpose from any subwatershed to another. Subwatersheds are those basins delineated on a map of HUC 12 watersheds by USDA/USGS or as defined by CRMC’s in Salt Ponds Region SAMP”

The Regulated Riparian Model Water Code defines “Interbasin Transfer” (2R-2-10) as follows:

An >interbasin transfer= is any transfer of water, for any purpose regardless of the quantity involved, from one basin to another.

I propose the following working definition for consideration by the OOBT committee:

Out-of-Basin Conveyance is any conveyance of water, including wastewater, by any means regardless of the quantity involved, out of a water basin.

Comment:

In Rhode Island not all water is conveyed from one basin to another; some is conveyed out of basins as wastewater directly to the saline waters of Narragansett Bay or Block Island Sound. The above definition, I believe, covers both interbasin transfer between fresh water basins, and transfer of water to bodies of saline water. It would also cover trucking of surface

water or ground water out of a water basin.

The term “out-of-basin conveyance” would appear to be useful in administrative and/or judicial proceedings in which protection or preservation of the water quality, water quantity, and environmental habitat in any basin of any size is at issue.

If any of you have suggestions or comments on the utility, applicability, and/or soundness of these two proposed definitions, please call (401 658 4747) or write (hjohns1931@aol.com) at your earliest convenience.

Thanks,

Herb